

Page -5-

CLAIMS

1. Axial through flow motor pump with an incorporated flowmeter, especially adapted to equip an automatic coffee machine, but which can be used for numerous other applications requiring pressurized liquid supply from a reservoir,

characterized in that it is of the type having a hollow free piston with an electromagnetic motor, and in that it is constituted of a main body (4), machined in a single piece made of plastic, one of its ends forming the coil (5) of the electromagnetic motor, the other end containing the cylinder block (6) in which the piston (7) moves, and comprising non-return valves (8 and 9), the flow meter (2), located in a block closing the main body (4) on the side opposite the water outlet (14), immediately after the water inlet (10), being formed of a free bucket wheel (11) comprising one or several permanent magnets (12) whose passage is detected by an electromagnetic detector (13), and the pressure limiting device (3) being constituted of a bore provided in the cylinder block (6) containing a calibrated spring-loaded valve connecting the water outlet (14) to the base of the piston (7), such that water is recycled, without driving the flow meter (2) in the case of back pressure at said water outlet.

2. Motor pump according to claim 1, characterized in that it is associated with a pressure controller (20) mounted on the supply circuit and in which the flow of the liquid is divided into two portions directed toward a chamber (25) containing a flexible membrane actuating an electric contact (24) for controlling the automatic liquid supply systems, and toward the outlet orifice (26) of the pressure controller communicating with the motor pump (1), respectively, the portion of flow converging to the chamber (25) along a central passage (27), and that converging to the outlet orifice (26) along a peripheral passage (28).

3. Motor pump according to claim 2, characterized in that the pressure controller (20) is constituted of a fixed element (21), affixed to the motor pump (1) or to the frame carrying the latter, and of an end piece (22) mounted at the base of the reservoir (23) supplying said motor pump and communicating with it, these two elements constituting a quick connection that can be separated so as to render said reservoir detachable without any tool.

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Page -6-

4. Motor pump according to any of claims 2 and 3, characterized in that the two passages (27, 28) are separated by a hollow piece (29) arranged in the body (30) of the fixed element (21) and extended by a bush (31) located in the end piece (22), the bush (31) being axially movable and associated with a spring so as to close the peripheral passage (28) during the separation of the fixed element (21) and of the end piece (22), the central passage (27) being closed by a valve (32) which is driven by a second spring, and sliding in the bush (31), the fixed element (21) further comprising a cylindrical shutter (33) sliding outside the hollow piece (29), actuated by a third spring and arranged so as to isolate the liquid circuit communicating with the motor pump (1) so as to prevent the liquid remaining in the latter from flowing outside.

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add 2